



Jon Richards /R4/USEPA/US

01/09/2006 08:47 PM

To jackson.brad@epa.gov

cc

bcc

Subject FW: bio markers for radionuclides

my response from CDC:

richards.jon@epa.gov

404/562-8648

-----Forwarded by Jon Richards/R4/USEPA/US on 01/09/2006 08:48PM -----

To: Jon Richards/R4/USEPA/US@EPA

From: "Whitcomb, Robert C" <byw3@CDC.GOV>

Date: 01/09/2006 08:41AM

cc: "Miller, Charles W." <CYM3@CDC.GOV>, "Ansari, Armin" <ASA4@CDC.GOV>, "Jones, Robert L." <RLJ0@CDC.GOV>

Subject: FW: bio markers for radionuclides

Jon,

Charles Miller asked me to respond to your question regarding bio markers for radionuclides. Currently, there are no known bio markers for estimating human intakes of radioactive material as there are for exposure to chemicals. CDC laboratories estimate human chemical exposure by measuring metabolites in human body fluids produced as a result of a chemical intake. These metabolic processes and the metabolites produced are often referred to as bio markers of chemical exposure. The radiation arena does not have the bio markers of "exposure" that is observed in the chemical arena. Therefore, most radiological laboratories rely on bioassay techniques for estimating radionuclide intakes by measuring the amount of radioactivity or radionuclide in the person (in vivo monitoring) or in the person's excreta (in vitro monitoring). CDC laboratories have developed rapid analytical techniques for measuring uranium in urine that are in turn used to estimate the intake. CDC is also developing rapid radioanalytical capability for other radionuclides.

I hope this answers your questions. If further information is needed, please contact me.

Thank you,

Robert C. Whitcomb, Jr., Ph.D., CHP
Radiation Studies Branch, EHHE, NCEH, CDC
1600 Clifton Rd, NE (MS-E39)
Atlanta, GA 30333
Telephone: 404.498.1838 Fax: 404.498.1811

-----Original Message-----

From: Miller, Charles W.

Sent: Monday, January 09, 2006 7:34 AM

To: Whitcomb, Robert C; Ansari, Armin

Subject: FW: bio markers for radionuclides



10765696

Since I will be out of town the rest of this week, please handle.

Charles W. Miller, Ph.D.
Chief, Radiation Studies Branch
Division of Environmental Hazards & Health Effects
National Center for Environmental Health
Centers for Disease Control & Prevention
Phone: 404/498-1803
FAX: 404/498-1811
CMiller1@cdc.gov

Address for FedEx, UPS, etc.:
Building 6, Room 1012
Executive Park Drive
Atlanta, GA 30329

-----Original Message-----

From: Richards.Jon@epamail.epa.gov [<mailto:Richards.Jon@epamail.epa.gov>]

Sent: Wednesday, January 04, 2006 1:30 PM
To: Miller, Charles W.
Subject: bio markers for radionuclides

Charles,

I met or [re-met] you at the Dingo King exercise, work over here in EPA radiation office.

We had a question proposed to us from our HQ on whether there are bio markers for radionuclides, e.g. radium?

-I thought they meant when blood effects can be seen as with acute doses of 5-10 rem, but I don't think this is what CDC means.
do you know anything about them? used for chemical exposures I presume?

thanks
Jon Richards

richards.jon@epa.gov
404/562-8648